

Coastal Engineering Technical Note

EELGRASS PLANTING GUIDELINES PACIFIC COAST AND ATLANTIC COAST NORTH OF BEAUFORT, NORTH CAROLINA

PROBLEM: Eelgrass (*Zostera marina*) (Figure) beds play an important role in the biological and physical functions of the coastal marine environment. These beds may be damaged or destroyed by coastal engineering projects which involve construction in shallow, nearshore waters. Methods are needed to mitigate impact on these highly productive habitats. Research in recent years has shown that eelgrass beds can be reestablished using transplants from existing beds.

APPROACH: This note provides guidelines for planting eelgrass. This plant can be used for mitigation and substrate stabilization along the Pacific coast and Atlantic coast, north of Beaufort, North Carolina.

SOURCE OF PLANT MATERIAL: Plant material for specific projects must be obtained from nearby native stands of eelgrass, since nursery techniques have not been developed for growing eelgrass.

OBTAINING AND HANDLING PLANT MATERIAL: Plants should be obtained on the date of intended use. After digging, sprigs should be kept moist in a container covered with canvas or burlap and wetted with seawater. To plant, sprigs should be inserted into a

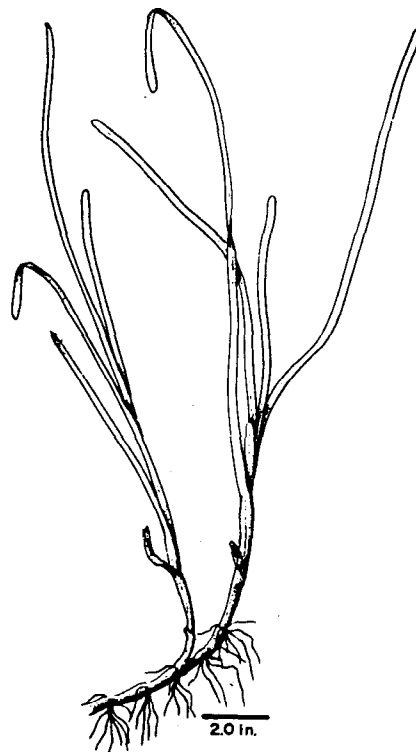


Figure. Vegetative Eelgrass

small 3-inch hole and sediment around the sprigs should be firmed to prevent washout. In areas subject to wave action or with currents exceeding 1.5 knots, sprigs should be anchored with a synthetic, fiber netting, interwoven with paper strips. Information on this material (E-Z Fabric) can be obtained from Gulf States Paper Corporation, Tuscaloosa, Alabama.

Plugs of eelgrass can also be used successfully. The plugs should be about 6 to 8 inches in diameter. They can be collected with a coring device that is pushed into the grassbed and the core extracted. The core is placed in a container for transporting and covered with wet burlap or canvas in order to keep the plugs moist until they are planted. The coring device can also be used to make a 6- to 8-inch hole for planting the seagrass.

PLANTING CONSIDERATIONS:

Planting Water Depth	
Pacific	- Mean higher low water to -6 feet
Atlantic	- Mean low water to -6 feet
Tide Currents	- 1.5 knots or less for sprigs, 3.5 knots or less for plugs or sprigs anchored with netting
Light	- Turbid water limits plant growth
Salinity	- Greater than 20 parts per thousand
Soil	- Cohesive (silts and clay) or a combination of cohesive and granular (sand)
Plant Material	- Sprigs (3 to 4 leafy shoots or some rhizomes or plugs) - sprigs least costly method
Planting time	
Pacific	- January to May, preferable (but can be done anytime)
Atlantic	- Late September to early December
Plant spacing	- 2 feet for sprigs, 3 feet for plugs
Labor	- 400 man-hours/acre for sprigs. No estimate available for plugs
Fertilizer	- Not required

ADDITIONAL INFORMATION: For further information contact E. J. Pullen
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REFERENCE:

PHILLIPS, R.C., "Planting Guidelines for Seagrasses," CETA 80-2, U.S. Army Corps of Engineers, Coastal Engineering Research Center, Fort Belvoir, VA., February 1980.